What is claimed is:

1. A method for controlling a plunger of a magnetic actuator assembly, the method comprising:

generating a magnetic flux at said plunger;

biasing said plunger by means of said first magnetic flux opposing a first bias from a first spring, said first spring having a first preload;

biasing said plunger opposing said first bias with a second spring in series communication with said first spring, said second spring having a second preload less than said first preload, said second preload configured to be adjustable to control the amount of said magnetic flux needed to overcome a net total preload opposing said magnetic flux;

generating a second magnetic flux at said plunger; and

biasing said plunger by means of said second magnetic flux higher than said first magnetic flux to overcome said net total preload from said first spring and said second spring in series communication.

2. The method of claim 1 further comprising:

disposing said first and second springs on opposing sides of said plunger.

3. The method of claim 2 further comprising:

preloading said second spring with an adjustable preload, said plunger effected by said net total preload of said first spring and said second spring in series communication when said plunger matches said net total preload.

4. The method of claim 2, wherein said plunger is effected solely by said second preload of said second spring until said plunger matches said first preload of said first spring.

5. The method of claim 2 further comprising:

preloading said first spring with said first preload, said plunger effected by said first preload of said first spring and said second spring in series communication when said plunger matches said first preload.

6. The method of claim 5 further comprising:

disposing a rod extending from one end of said plunger for operable communication with a valve seat, said rod configured to operably control fluid flow through said valve seat relative to a position of said plunger;

applying said second preload via a screw in operable communication with said second spring on an opposite end of said plunger such that said second spring is preloaded biasing rod away from said screw and opposing said first spring bias.

7. The method of claim 5, wherein said first spring has a first spring rate greater than a second spring rate of said second spring.

8. The method of claim 1, wherein said first magnetic flux is generated by a first input duty cycle and said second magnetic flux is generated by a second input duty cycle larger than said first input duty cycle.

9. The method of claim 8, wherein said screw allows calibration of one of an opening point and a closing point of said valve seat with respect to a required input duty cycle to overcome said net total preload of first and second springs.

10. The method of claim 1, wherein said first and second magnetic flux is generated by at least one of a pulse width modulated (PWM) current control driver, PWM voltage driver, and PWM frequency.

11. The method of claim 6 further comprising:

disposing a fluid flow device in fluid communication with said valve seat; said flow device configured to guide inlet fluid to said valve seat reducing at least one of flow vortices and turbulence in a chamber defined between said flow device and said valve seat.

12. The method of claim 11, wherein said flow device includes two inlets disposed at outboard ends defining said flow device and a frustoconically shaped member extending between said inlets extending toward said valve seat.

13. The method of claim 12, wherein said first spring is retained within an interior portion defining said frustoconically shaped member, said first spring biasing a ball against said valve seat with said first preload.

14. The method of claim 13, wherein said member is configured to guide said spring from buckling and guide fluid away from said spring.

15. The method of claim 14, wherein an end defining a smaller annular end of said member is configured as a stop for said ball.

16. The method of claim 12, wherein said valve seat is adjustable to limit variable dimensional stack up due to part to part variation.

17. The method of claim 12, wherein said plunger, first and second springs, flow device and resulting magnetic actuator assembly are employed in both normally closed and normally open valve assemblies without reconfiguring the magnetic actuator assembly and parts associated therewith.

18. A method for controlling an opening/closing point of a plunger of a magnetic actuator assembly in an automatic transmission control valve assembly in a vehicle, the method comprising:

arranging a first spring preloaded with a first preload between a first end of said plunger and a valve seat;

arranging a second spring preloaded with a second preload smaller than said first preload between an opposite end of said first end of said plunger and a stop assembly, said first end of said plunger in operable communication with a hydraulic valve assembly, wherein said second preload is adjustable to effect a net total preload of said first and second springs thereby adjusting magnetic flux necessary to translate said plunger.

19. The method of claim 18, wherein said valve seat is adjustable.

20. The method of claim 19, wherein said valve seat is in fluid communication with a means for limiting at least one of flow vortices and turbulence of inlet fluid in said hydraulic valve assembly.

21. A magnetic actuator assembly comprising:

an armature plunger in operable communication with an actuator of the magnetic actuator;

a coil configured to generate a first magnetic flux at said plunger;

a first spring having a first preload in operable communication with said plunger, said plunger is biased by means of said first magnetic flux opposing a first bias from said first spring; and

a second spring in series communication with said first spring, said second spring having a second preload less than said first preload, said second preload configured to be adjustable to control the amount of said magnetic flux needed to overcome a net total preload of said first and second springs opposing said magnetic flux,

wherein when said coil is further energized to generate a second magnetic flux, said plunger is biased by means of said second magnetic flux larger than said first magnetic flux to overcome said net total preload from said first spring and said second spring in series communication.

22. The assembly of claim 21, wherein said first and second springs are disposed on opposing sides of said plunger.

23. The assembly of claim 22, wherein said second spring is preloaded with an adjustable preload, said plunger effected by said net total preload of said first spring and said second spring in series communication when said plunger matches said net total preload.

24. The assembly of claim 22, wherein said plunger is effected solely by said second preload of said second spring until said plunger matches said first preload of said first spring.

25. The assembly of claim 22, wherein said plunger effected by said first spring and said second spring in series communication when said plunger matches said first preload.

26. The assembly of claim 25 further comprising:

a rod extending from one end of said plunger for operable communication with a valve seat, said rod configured to operably control fluid flow through said valve seat relative to a position of said plunger; and

a screw configured to apply said second preload to said second spring on an opposite end of said plunger such that said second spring is preloaded biasing rod away from said screw and opposing said first spring bias.

27. The assembly of claim 25, wherein said first spring has a first spring rate greater than a second spring rate of said second spring.

28. The assembly of claim 21, wherein said first magnetic flux is generated by a first input duty cycle and said second magnetic flux is generated by a second input duty cycle larger than said first input duty cycle.

29. The assembly of claim 28, wherein said screw allows calibration of one of an opening point and a closing point of said valve seat with respect to a required input duty cycle to overcome said net total preload of first and second springs.

30. The assembly of claim 21, wherein said first and second magnetic flux is generated by at least one of a pulse width modulated (PWM) current control driver, PWM voltage driver, and PWM frequency.

31. The assembly of claim 26 further comprising:

a fluid flow device in fluid communication with said valve seat; said flow device configured to guide inlet fluid to said valve seat reducing at least one of flow vortices and turbulence in a chamber defined between said flow device and said valve seat.

32. The assembly of claim 31, wherein said flow device includes two inlets disposed at outboard ends defining said flow device and a frustoconically shaped member extending between said inlets extending toward said valve seat.

33. The assembly of claim 32, wherein said first spring is retained within an interior portion defining said frustoconically shaped member, said first spring biasing a ball against said valve seat with said first preload.

34. The assembly of claim 33, wherein said member is configured to at least one of guide said spring from buckling and guide fluid away from said spring.

35. The assembly of claim 34, wherein an end defining a smaller annular end of said member is configured as a stop for said ball.

36. The assembly of claim 32, wherein said valve seat is adjustable to limit variable dimensional stack up due to part to part variation.

37. The assembly of claim 32, wherein said plunger, first and second springs, flow device and resulting magnetic actuator assembly are employed in both normally closed and normally open valve assemblies without reconfiguring the magnetic actuator assembly and parts associated therewith.

38. A magnetic actuator assembly for controlling a plunger in an automatic transmission control valve assembly in a vehicle comprising:

a first spring preloaded with a first preload disposed between a first end of said plunger and a valve seat;

a second spring preloaded with a second preload smaller than said first preload between an opposite end of said first end of said plunger and a stop assembly, said first end of said plunger in operable communication with a hydraulic valve assembly having said valve seat,

wherein said second preload is adjustable to effect a net total preload of said first and second springs thereby adjusting a magnetic flux necessary to translate said plunger.

39. The assembly of claim 38, wherein said valve seat is adjustable.

40. The assembly of claim 39, wherein said valve seat is in fluid communication with a means for limiting at least one of flow vortices and turbulence of inlet fluid to said hydraulic valve assembly.